REMARKS

Claims 1-63 are pending. By this Amendment, claims 6, 7 and 63 are cancelled, claims 1, 2, 4 and 5 are amended, and no new claims are added. Support for the present amendments can be found in the application as originally filed at page 5, lines 9 and 10 and original claim 7. No new matter is believed introduced by way of the present amendments.

Claim Rejections-35 U.S.C. § 112

In the Office Action mailed February 26, 2009, claim 63 is rejected under 35 U.S.C. § 112, second paragraph. In response, Applicants have cancelled claim 63 rendering the foregoing rejection moot.

Claim Rejections-35 U.S.C. § 102(b) – Espinoza et al.

In the Office Action mailed February 26, 2009, claims 1-11, 16-18 and 58-63 are rejected under 35 U.S.C. § 102(b) as being anticipated by EP 0736326 A1 to Espinoza et al. In response, Applicants have amended independent claim 1 to further clarify the presently claimed invention.

By way of the present amendment to independent claim 1, Applicants have clarified the pending invention as being directed to a catalyst for use in a Fischer-Tropsch synthesis reaction which comprises cobalt supported on alumina, in which the catalyst average particle size is in the range 20 to 100 μm; the specific surface area of the impregnated and calcined catalyst particles is greater than 120 m^2/g; the average pore size of the impregnated and calcined catalyst is at least 90Å (9nm); and the pore volume of the impregnated and calcined catalyst is at least 0.45 cm^3/g.

Applicants respectfully assert that Espinoza et al. fails to teach all features of independent claim 1 as amended.

Espinoza et al. is directed to a process for preparing an Fischer-Tropsch catalyst in which alumina is used as a carrier and cobalt is indicated as an active component. Preparation of catalyst particles within the range 50 to 150 mm is explained in Examples 60 to 65 and the physical properties of the support material are provided in table 5. However, in this reference, it is only the properties of the starting material, i.e. the alumina support, which are provided. Applicants respectfully submit that Espinoza et al. fails to teach the limitations of the catalyst as claimed in independent claim 1.

Moreover, the catalyst particles prepared according to the examples in Espinoza et al. do not inherently describe the limitations of independent claim 1. The Puralox FCCA 5/150 support material is not equivalent to the alumina supports used in the preparation of the catalysts in the present application. The physical properties for the catalysts in the present application are set out in table 4 of the present application. Except for the support labeled ALU-B, the surface area of all the alumina supports are substantially greater than the indicated surface area of the Puralox FCCA 5/150 in table 5 of Espinoza et al. Furthermore, during impregnation, the surface area of the alumina supports will decrease considerably, which is supported by an inspection of the data provided in table 4 of the present application. For instance, the surface area of the alumina support ALU-A at about 194 m^2/g drops to 150 m^2/g or below for the corresponding CAT-A1, CAT-A2 and CAT-A3 catalysts. Similar differences can be observed for the mean pore diameter and the pore volume attributes (although to a lesser extent for the mean pore diameter). Similar decreases in the physical property data are expected during the impregnation and preparation of

catalysts from Puralox FCCA 5/150 supports. Accordingly, Applicants respectfully submit that the figures relating to the initial support material in Espinoza et al. are not applicable to the impregnated and calcined catalyst of the claimed invention. As such, Espinoza et al. fails to teach the limitations of the catalyst as claimed in independent claim 1.

Accordingly, a *prima facie* case of anticipation has not been established. With respect to specific features of claims 2-5, 8-11 and 16-18 depending from independent claim 1, these are not commented on further, as they are presently moot given the above analysis, although Applicants do not acquiesce in the Examiner's position. Applicants respectfully request withdrawal of these rejections.

Claim Rejections-35 U.S.C. § 102(e) – Hu et al.

In the Office Action mailed February 26, 2009, claims 1-5, 7-10, 17-18, 58 and 60-63 are rejected under 35 U.S.C. § 102(e) as being anticipated by WO 02/089978 to Hu et al., or, in the alternative, under 35 U.S.C. § 103(a) as unpatentable over the same. In response, Applicants have amended independent claim 1 to further clarify the presently claimed invention.

By way of the present amendment to independent claim 1, Applicants have clarified the pending invention as being directed to a catalyst for use in a Fischer-Tropsch synthesis reaction which comprises cobalt supported on alumina, in which the catalyst average particle size is in the range 20 to 100 μm; the specific surface area of the impregnated and calcined catalyst particles is greater than 120 m^2/g; the average pore size of the impregnated and calcined catalyst is at least 90Å (9nm); and the pore volume of the impregnated and calcined catalyst is at least 0.45 cm^3/g.

Applicants respectfully assert that Espinoza et al. fails to teach all features of independent claim 1 as amended.

Hu et al. is directed to a catalyst for use in the Fischer-Tropsch process. Applicants respectfully submit that, again, the properties of the catalyst in Hu et al. refer to the support, not the impregnated and calcined catalyst as claimed in independent 1. For example, the pore volume of the impregnated and calcined catalyst according to independent claim 1 as amended is at least 0.45 cm^3/g, whereas the cited range of Hu et al. and the range in claim 10 refers to the pore volume of the support, before any impregnation and calcination of the catalyst. As mentioned above, when support materials are impregnated and calcined, properties such as surface area, pore size and pore volume are changed, generally to lower values. In fact, this phenomenon is exemplified with respect to pore volume values in table 1 on page 28 of Hu et al. Table 1 in Hu et al. shows that the pore volume of untreated Puralox SCCa 5/150 alumina support decreases from 0.5011 cm^3/g to about 0.3 cm^3/g or below, following impregnation and calcinations. Accordingly, Applicants respectfully submit that the figures relating to the initial support material are not applicable to the impregnated and calcined catalyst of the claimed invention. As such, Hu et al. fails to teach the limitations of the catalyst as claimed in independent claim 1.

Accordingly, a *prima facie* case of anticipation has not been established. With respect to specific features of claims 2-5, 8-10 and 17-18 depending from independent claim 1, these are not commented on further, as they are presently moot given the above analysis, although Applicants do not acquiesce in the Examiner's position. Applicants respectfully request withdrawal of these rejections.

Claim Rejections-35 U.S.C. § 103(a)

In the Office Action mailed February 26, 2009, claims 1-12, 16-18 and 58-63 are alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over Espinoza et al. in view of U.S. Patent No. 6,255,358 to Singleton et al. Also, claims 1-11, 13-18 and 58-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Espinoza et al. in view of U.S. Patent No. 3,988,263 to Hansford. Further, it appears that claims 1-5, 7-10, 16-18, 58 and 60-63 are rejected under 35 U.S.C. 103(a), not the stated 35 U.S.C. 102(e), as being unpatentable over Hu et al. In response, Applicants have amended independent claim 1 to further clarify the presently claimed invention.

By way of the present amendment to independent claim 1, Applicants have clarified the pending invention as being directed to a catalyst for use in a Fischer-Tropsch synthesis reaction which comprises cobalt supported on alumina, in which the catalyst average particle size is in the range 20 to 100 μm; the specific surface area of the impregnated and calcined catalyst particles is greater than 120 m^2/g; the average pore size of the impregnated and calcined catalyst is at least 90Å (9nm); and the pore volume of the impregnated and calcined catalyst is at least 0.45 cm^3/g. Applicants respectfully assert that Espinoza et al. fails to teach all features of independent claim 1 as amended.

As previously presented, neither Espinoza et al. nor Hu et al. expressly or inherently describe all the claim limitations of independent claim 1 as amended. Neither Singleton nor Hansford cure these deficiencies. As in the situation of Espinoza et al. and Hu et al., the properties of the catalyst in Singleton refer to the support, not the impregnated and calcined

catalyst as in the claimed invention. (Col. 4, lines 45-53; Claim 5.) Thus, a *prima facie* case of obviousness has not been established, as the cited references, individually or in combination, do not teach or suggest all of the features included in independent claim 1 as amended. If an independent claim is non-obvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837, F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Therefore, Applicants are not presenting additional arguments with respect to the patentability of the dependent claims, although Applicants do not acquiesce to any of the rejections and reserve the right to raise additional arguments with respect to the patentability of such claims. As all remaining pending claims depend directly or indirectly from one of the subject claims, Applicants respectfully request that the rejections under § 103 be withdrawn. Also, because a *prima facie* case of obviousness has not been established, Applicants do not comment further here on the suitability of combining or modifying the cited references. Thus, Applicants respectfully request reconsideration and withdrawal of these rejections.

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested.

The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,

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